



**Orion Environmental Inc.**  
✓ 2955 Redondo Avenue 562 988-2755 PHONE  
Long Beach, CA 90806 562 988-2759 FAX

**DBA Arctos Environmental**  
○ 2332 5th Street, Suite A 510 525-2180 PHONE  
Berkeley, CA 94710 510 525-2392 FAX

# Memorandum


Date: 1 May 2015

Subject: **Summary of Repairs to the Passive Sub-Slab Vapor Collection System  
Former TRW Microwave Site  
825 Stewart Drive, Sunnyvale, California**

Orion Environmental Inc. (Orion), on behalf of Northrop Grumman Systems Corporation, has prepared this memorandum to document the replacement/repair of the passive sub-slab vapor collection (SVC) system encountered during the remedial activities conducted in the former source area from September through November 2014.

The SVC system was repaired in accordance with AECOM's work plan dated 13 August 2013. Specifically, prior to soil excavation, the contractor cut and removed the SVC piping exposed during concrete removal activities to limit any damage to the remaining SVC piping. Following the excavation activities, the entire excavation was backfilled to the surface and then a new trench was dug with a minimum width of 12 inches. The trench was covered with geotextile fabric, 3/8-inch pea gravel was installed, and new slotted piping was installed approximately 3 inches above the base of the trench and 12 inches below the finished grade. The new piping was connected to the existing SVC piping with couplings in the same manner that the original SVC piping was installed.

This work was conducted under the supervision of Michael P. Purchase, a California-registered engineer.

  
Michael P. Purchase  
R.C.E. No. C71230

